Name: _____

Alpha-Beta Search Exercise

Examine the depth-3 game tree below. It is Min's turn to play. Each leaf node shown may or may not need evaluation; if needed, assume the provided number gives the static value of the node.

Compute the backed-up value of each internal node, if needed by minimax search with alpha-beta pruning. Show the values of α and β for each call. Also show how the value v is updated at each node as the search progresses. Use left-to-right ordering among each pair of siblings. Indicate which subtrees do not need to be evaluated by drawing loops around them (or by drawing an X on each arc that goes from the subtree's parent to the subtree). Where the value of v ends up only partially known, show that status at the node. For example, $v \geq 9$.